Final

Proposed Plan for Area of Concern G-1

Former McClellan Air Force Base
Air Force Real Property Agency

Sacramento, California

May 2009

DEPARTMENT OF THE AIR FORCE
AIR FORCE REAL PROPERTY AGENCY

MAY 28 2009

MEMORANDUM FOR SEE DISTRIBUTION

FROM: AFRPA Western Region Execution Center
3411 Olson Street
McClellan CA 95652-1003

SUBJECT: Final Area of Concern (AOC) G-1 Proposed Plan, former McClellan Air Force Base (DSR# 2043-5)

1. Enclosed is the Final version of the AOC G-1 Proposed Plan (DSR# 2043-5). This Final Proposed Plan is categorized as a primary document, with a due date of 29 May 2009. Comments on the draft final version have been addressed and incorporated into this final version. Responses to comments are provided separately. This final version also incorporates changes to the document discussed with the regulatory agencies during the BCT Meeting on 20 May 2009, and additional comments received from EPA and DTSC by e-mail on 26 May 2009.

2. The Air Force has prepared a summary Proposed Plan Fact Sheet for AOC G-1 that is being provided to those individuals or entities on the community mailing list. This Final Proposed Plan will be provided to the Restoration Advisory Board members and be made available for review at those locations specified in the Proposed Plan.

3. Any questions regarding this document should be directed to me at (916) 643-0830, ext 224.

STEVEN K. MAYER, P.E.
BRAC Environmental Coordinator

Attachment2:
1. Final Site AOC G-1 Proposed Plan
2. Response to Comments

DISTRIBUTION LIST

Address	Number of Copies
AFRPA Western Region Execution Center	
Attn: Mr. Steve Mayer	3
Mr. Paul Bernheisel	1
Administrative Record	2
Community Relations	15
3411 Olson Street	
McClellan CA 95652-1003	
U.S. Environmental Protection Agency, Region IX	
Office of Superfund Programs	
Attn: Ms. Penny Reddy (SFD-8-1)	3
75 Hawthorne Street	
San Francisco CA 94105	
Dept. of Toxic Substances Control	
Region 1, Site Mitigation Branch	
Attn: Mr. Stephen Pay	3
8800 Cal Center Drive	
Sacramento CA 95826-3200	
Department of Health Services	
Environmental Management Branch	
Attn: Mr. Kurt Jackson	1
1616 Capitol Avenue (MS 7405)	
Sacramento CA 95814	
California Environmental Protection Agency	
Regional Water Quality Control Board	
Attn: Mr. James Taylor	2
11020 Sun Center Drive, #200	
Rancho Cordova CA 95670-6114	
TechLaw Inc.	1
Attn: Mr. Rich Howard	
921 11th Street, Suite 800	
Sacramento CA 95814	
County of Sacramento	
Office of McClellan Base Conversion	
Attn: Mr. Dana Booth	1
3331 Peacekeeper Way	
McClellan CA 95652	
McClellan Business Park	
Attn: Mr. Alan Hersh	1
3140 Peacekeeper Way	
McClellan CA 95652	

Former McClellan Air Force Base

Final

Proposed Plan for Area of Concern G-1

Data Item No. A001E
SOO Paragraph No. 9.7.5

Contract No. F41624-03-D-8595
Project No. PRJY20067224

Task Order 0412

Prepared for
AFRPA/McClellan
McClellan, California 95652-1071

Prepared By

2485 Natomas Park Drive, Suite 600
Sacramento, California 95833

May 2009

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	29 May 2009	Proposed Plan

4. TITLE AND SUBTITLE

Former McClellan Air Force Base
Final Proposed Plan for Area of Concern G-1
CDRL Item No. A001E
SOO Paragraph No. 9.7.5
Project No. PRJY20067224
Contract No. F41624-03-D-8595
Task Order 0412

5. FUNDING NUMBERS

F41624-03-D-8595
PRJY20067224

6. AUTHOR(S)

CH2M HILL (Project Manager: Rick Sturm)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

CH2M HILL
2485 Natomas Park Drive, Suite 600
Sacramento, California 95833

8. PERFORMING ORGANIZATION REPORT NUMBER

342957.BB.02.04.92.01

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

HQ AFCEE/BCW
3300 Sidney Brooks, Bldg. 532
Brooks City-Base, Texas 78235-5112

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

Statement A: "Approved for public release: distribution is unlimited."

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

This Final Proposed Plan for Area of Concern G-1 at the former McClellan Air Force Base in Sacramento, California, presents the Air Force's preferred alternatives for addressing volatile organic compounds (VOCs) in soil gas and non-volatile organic compounds in soil.

14. SUBJECT TERMS

15. NUMBER OF PAGES
1 volume

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	Unlimited

PRIVACY ADVISORY

Your comments on this Proposed Plan for AOC G-1 are requested. Letters or other written or oral comments provided may be published in the AOC G-1 Record of Decision (ROD). As required by law, comments will be addressed in the Responsiveness Summary of the AOC G-1 ROD and made available to the public. Any personal information you provide will only be used to facilitate your ability to make a statement during the public comment portion of any public meeting or hearings, or to fulfill requests for copies of the AOC G-1 Proposed Plan, ROD, or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of these documents. However, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the AOC G-1 ROD or any other documents.

Proposed Plan
For Area of Concern G-1
Former McClellan Air Force Base

Air Force Real Property Agency
3411 Olson Street
McClellan, CA 95652-1003

Final – May 2009

A. Introduction

The **Air Force Real Property Agency**,[1] referred to as the Air Force, is issuing this **Proposed Plan** for **Area of Concern (AOC)** G-1 at the former McClellan Air Force Base (McClellan). The Air Force presents this Proposed Plan to encourage public involvement with the cleanup decisions at McClellan.

A public comment period and a public meeting are described at the bottom of this page. You have the opportunity to review and comment on the Proposed Plan during this period. The Air Force will make a final cleanup decision after all comments have been considered.

This Proposed Plan addresses **volatile organic compounds (VOCs)** in **soil gas** and **non-volatile organic compounds (non-VOCs)** in soil at AOC G-1. The non-VOCs include **semivolatile organic compounds (SVOCs)**, metals, petroleum hydrocarbons, and **polycyclic aromatic hydrocarbons (PAHs)**. This Proposed Plan summarizes the past actions, investigations, and studies that the Air Force has performed at AOC G-1, and it identifies the **Preferred Alternative** the Air Force believes is the best solution for protection of human health and the environment at AOC G-1. It also discusses the other cleanup alternatives that were considered. The information presented in this Proposed Plan can be found in greater detail in the ***Operable Units** E-H **Remedial Investigation** Characterization Summaries 2* and the ***Initial Parcel #3 Feasibility Study***, as well as other site-specific reports.[2]

How You Can Be Involved

Public Comment Period

- June 8 through July 8, 2009

Mail (or e-mail) your written comments to:

Air Force Real Property Agency
Attention: Community Relations
3411 Olson Street
McClellan, CA 95652-1003

brian.sytsma.ctr@lackland.af.mil

Comments must be received by 5:00 p.m. on July 8, 2009.

Public Meeting

- June 16, 2009 at 6:00 p.m.

North Highlands Community Center
6040 Watt Ave.
North Highlands, California 95660

The Air Force will present a summary of the Proposed Plan. You will be able to ask questions and tell Air Force representatives what you think about the cleanup alternatives. The Air Force will record oral comments and respond to them in the final decision document. A final cleanup decision will not be made until all comments are considered.

For additional information or to obtain another copy of this Proposed Plan, call Brian Sytsma, McClellan Community Relations, at (916) 643-1250, ext. 232.

[1] To assist the reader, as each key term is introduced, it appears in **bold type**. A glossary of key terms is provided on pages 11–14.

[2] Site-specific reports are available through McClellan's Administrative Record. See page 3 for more information.

Table of Contents

Section	Page
A. Introduction	1
B. History and Site Background	3
C. Site Characteristics	5
D. Scope and Role of the Proposed Plan	6
E. Summary of Site Risks	6
F. Cleanup Objectives	7
G. Summary of Cleanup Alternatives	7
H. Evaluation of Alternatives	8
I. Preferred Cleanup Alternatives	8
J. Community Participation	10
Glossary/Acronyms	11

Figures

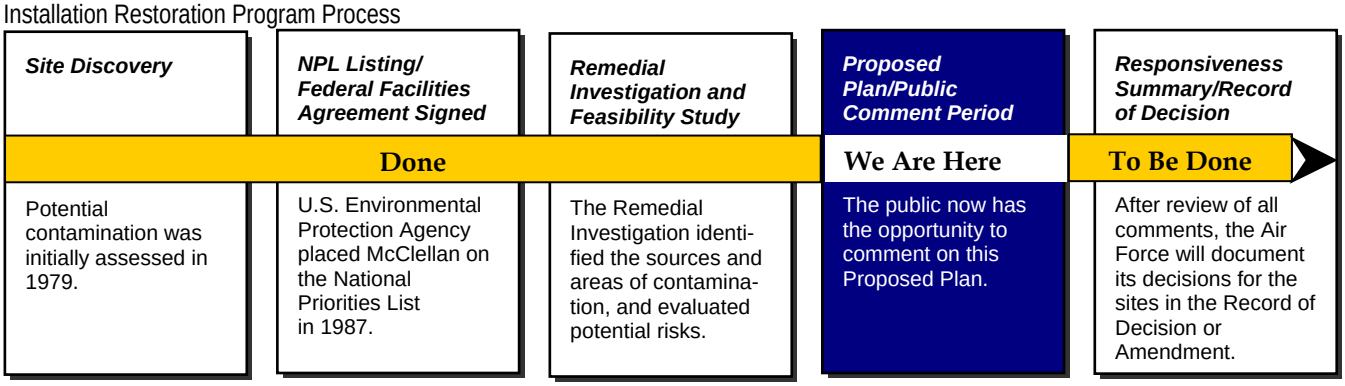
1	Installation Restoration Program Process	3
2	Site Features for AOC G-1	4
3	National Contingency Plan Criteria for Evaluating Remedial Alternatives and How the Alternatives for AOC G-1 Meet the Criteria	9

The Air Force and state and federal regulatory agencies work as a team to investigate and clean up McClellan. The Air Force is the lead agency for environmental cleanup activities at McClellan. The primary regulatory agencies overseeing the McClellan cleanup are the U.S. Environmental Protection Agency (U.S. EPA) and the State of California Environmental Protection Agency (Cal/EPA), represented by the Department of Toxic Substances Control (DTSC) and the Central Valley Regional Water Quality Control Board (Regional Water Board). The Air Force and the U.S. EPA jointly select the remedies, with concurrence from the State of California. The preferred remedy identified in this Proposed Plan consists of **Institutional Controls** to prohibit residential use. The proposed Institutional Controls, which are legal mechanisms to limit the exposure of persons using the property, will take the form of deed restrictions and a State Land Use Covenant (SLUC). More information on the proposed remedy is provided later in this Proposed Plan.

The Air Force is issuing this Proposed Plan as part of its public responsibility under the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** 117 Section 300.430 (f)(2) and the **National Oil and Hazardous Substance Pollution Contingency Plan (NCP)**. Section 117 of CERCLA requires public involvement in decisions related to the cleanup of sites. This Proposed Plan addresses the community involvement requirements of CERCLA. CERCLA is commonly referred to as Superfund. Based on comments provided by the public on the proposed remedies, the Air Force may consider other actions if they are deemed necessary to provide protection to human health and the environment or if new information becomes available. The Proposed Plan typically leads to the **Record of Decision** in which the final cleanup decision is established and described in detail.

This Proposed Plan addresses site AOC G-1 that was identified during earlier investigations under the Air Force's **Installation Restoration Program (IRP)**. The IRP follows the CERCLA process as illustrated on Figure 1.

FIGURE 1
Installation Restoration Program Process



This Proposed Plan, the IP #3 Feasibility Study, and other environmental documents describing the Air Force's investigation and cleanup activities are available online at (http://www.safie.hq.af.mil/afrpa/legacybrac/formermcclellan.asp) and at the following locations during the public comment period.

AFRPA location:
McClellan AFB Administrative Record
3411 Olson Street, Building 10
McClellan, CA 95652
(916) 643-1742 ext. 201
Appointments available from 8:00 a.m. to 3:00 p.m.

Library location:
North Highlands-Antelope Library
4235 Antelope Road
Antelope, CA 95843
(916) 264-2920
http://www.saclibrary.org/about_lib/branches.html

Library hours:
- Monday and Wednesday: noon to 8:00 p.m.
- Tuesday and Thursday: 10:00 a.m. to 6:00 p.m.
- Friday: 1:00 p.m. to 5:00 p.m.
- Saturday: 10:00 a.m. to 5:00 p.m.
- Sunday: Closed

DTSC location:
8800 Cal Center Drive
Sacramento, CA 95826
(916) 255-3758 (File Room)
Appointments available from 8:00 a.m. to 4:30 p.m.

To facilitate communication between the Air Force and the neighboring community, McClellan has an active community relations / public participation program, which includes a **Restoration Advisory Board**. The Restoration Advisory Board consists of stakeholders from the community, regulatory agencies, and the Air Force. The Air Force conducts public outreach meetings and speaking engagements with local organizations. For more information about the McClellan Community Relations Program or the Restoration Advisory Board, contact Brian Sytsma at (916) 643-1250, ext. 232 or e-mail brian.sytsma.ctr@lackland.af.mil.

B. History and Site Background

Former McClellan AFB, which encompasses about 3,000 acres, is located 7 miles northeast of downtown Sacramento, California. McClellan is surrounded by the City of Sacramento to the west and southwest, unincorporated areas of Antelope on the north, Rio Linda on the northwest, and North Highlands on the east (see Figure 2).

Founded in 1936, McClellan was an aircraft repair depot and supply base. McClellan's mission was to provide logistics and maintenance support for aircraft, communications, and electronic systems. In 1995, the federal government decided to close McClellan, and it was officially closed in July 2001.

The U.S. EPA listed McClellan on its **National Priorities List** of Superfund sites in July 1987. The Air Force initiated the process outlined in the NCP for hazardous waste site cleanup. Under the Superfund program, the Air Force funds and conducts cleanup at McClellan.

AOC G-1 is in the northeast portion of McClellan (Figure 2). AOC G-1 originally consisted of an approximately 37-acre parcel that was acquired by the Air Force in 1967 (Figure 2). In 2006, the eastern portion of AOC G-1 (comprising approximately 12 acres) was determined to be suitable for unrestricted reuse, and it was transferred to the **Local Reuse Authority (LRA)** via a **Findings of Suitability to Transfer (FOST)** (Tetra Tech, 2006). Therefore, the eastern portion is no longer considered part of AOC G-1.

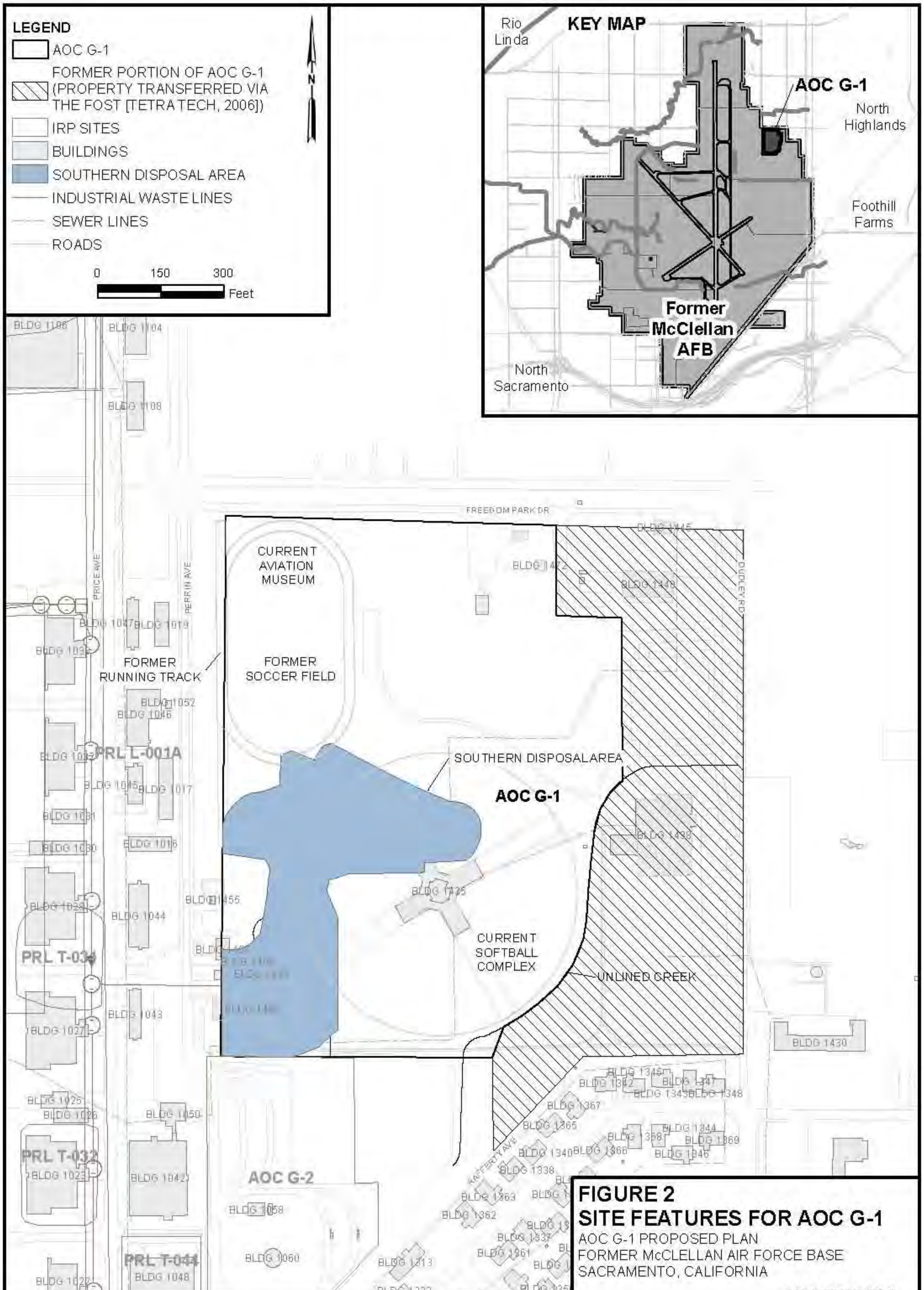


FIGURE 2
SITE FEATURES FOR AOC G-1
AOC G-1 PROPOSED PLAN
FORMER McCLELLAN AIR FORCE BASE
SACRAMENTO, CALIFORNIA

CH2MHILL

\\ZION\SACGIS\PROJ\MCCLELLAN\342957_TO_412\RICS\MAPFILES\FS\AOCG1.MXD AOC G1.PDF KSWANSO3 5/26/2009 10:25:16

AOC G-1 currently consists of approximately 25 acres. The site is occupied by a recreational complex that includes softball fields and an aviation museum. AOC G-1 was identified as an area of concern because two suspected disposal areas (a southern disposal area and a northern disposal area) and a suspected small arms firing range were identified in aerial photographs (please note that only the southern disposal area is depicted on Figure 2).

One of the suspected disposal areas (the southern disposal area) appears to have been associated with a former automotive business that occupied part of the site prior to the Air Force's acquisition of the property. This disposal area apparently received wastes such as construction debris, including concrete, asphalt, tar paper, bricks, glass, burnt wood, ash, metal scraps, and cables mixed with soil used to fill low areas. The second suspected disposal area (the northern disposal area; seen as an area of soil disturbance on aerial photographs) is no longer believed to have been an actual disposal area. The northern disposal area appears on aerial photographs at the same time as the construction of the recreation complex. Therefore, this feature is believed to have been a storage area for the fill material and topsoil used for the construction of the softball fields. Based on detailed aerial photograph reviews and interviews with persons knowledgeable with the site, the suspected small arms firing range has been subsequently identified as an archery range.

The Air Force is in the process of transferring all the property once part of McClellan AFB. Following implementation of the selected remedy, a portion of the property and the associated park facilities will be transferred to the North Highlands Recreation and Park District. The remaining portion of the property (located in the northwestern corner) will be transferred to the Aerospace Museum of California. Therefore, this Proposed Plan is a key step in the transfer of property.

C. Site Characteristics

Contaminants in soil and soil gas at AOC G-1 are believed to be associated with waste materials in the southern disposal area. During the exploratory trenching in the southern disposal area, construction debris was encountered between 1 and 5 feet below ground surface. Contaminants including non-VOCs were detected at concentrations exceeding screening levels in samples collected from within the debris layer. Naphthalene was the only VOC detected at concentrations greater than screening levels in shallow soil gas samples collected at the site. While samples were collected from within the debris layer, there is some uncertainty regarding the remaining materials and potential contamination within the southern disposal area.

No potential impacts to **groundwater** or surface water quality were identified at the site. The IP #3 Feasibility Study evaluated VOC contamination in both **shallow soil gas** and **deep soil gas**, and non-VOC contamination in soil at AOC G-1. The following contaminants at AOC G-1 are addressed in this Proposed Plan:

- VOCs, such as naphthalene
- Non-VOCs, such as metals (arsenic, vanadium), **total petroleum hydrocarbons (TPH)**, and **polycyclic aromatic hydrocarbons (PAHs)**

VOCs are organic compounds that evaporate readily at room temperature. VOCs are commonly used in painting and parts cleaning. VOCs can be found in soil gas, which is the air between particles of soil. VOCs are of concern because once solvents are spilled, the vapors from the solvents can migrate into buildings. If the vapors migrate inside the buildings, the occupants can be exposed by breathing the air. This **exposure pathway** (i.e., a way that people can be exposed to chemical contaminants) is referred to as the **vapor inhalation pathway**. In addition to inhalation of vapors, people can also be exposed to contaminants via other exposure pathways, including ingestion and absorption through the skin. VOCs close to the ground surface have a greater potential impact on indoor air because they can more readily

migrate or be drawn into buildings through ventilation systems. Consequently, the VOC contamination in the upper 15 feet of soil, referred to as shallow soil gas, is given the most scrutiny.

Non-VOCs are commonly found in electrical components, paints, fuel-related products, and combustion by-products. Most non-VOCs tend to be less mobile than VOCs, and do not generally pose an inhalation threat. Because of their relative stability in the soil, they are most commonly found in shallow soils (0 to 15 feet).

Additional details on the contaminants identified above for AOC G-1 can be found in the *Operable Unit E-H Remedial Investigation Characterization Summaries 2* (Jacobs, 2000) and the *Initial Parcel #3 Feasibility Study* (CH2M HILL, 2008).

D. Scope and Role of the Proposed Plan

This Proposed Plan summarizes the evaluation of cleanup alternatives for addressing soil and soil gas contamination at AOC G-1 and presents the Air Force's preferred alternative. It addresses VOCs in soil gas and non-VOCs in soil at AOC G-1. AOC G-1 does not require cleanup to protect wildlife because site features associated with the sports complex and aviation museum result in minimal wildlife habitat and no sensitive wildlife is present onsite. AOC G-1 is not considered a source area for groundwater contamination. Possible contamination in groundwater beneath AOC G-1 has been evaluated and addressed separately in the Basewide VOC Groundwater ROD (August 2007) and the Non-VOC Amendment to the Basewide VOC Groundwater ROD (pending).

Two sets of Preliminary Cleanup Goals (chemical-specific cleanup levels) were considered. The first set protects human health and the environment for **unrestricted land use**. Unrestricted land use allows for anything to be built, even homes. The second set protects human health for industrial use and would allow commercial or industrial activities. The second land use category is a **restricted land use** category and does not allow for construction of homes, day care centers, or similar facilities. However, these levels are protective of recreational use (for both adults and children).

E. Summary of Site Risks

Risks to human health through migration of vapor into buildings and from ingestion and adsorption of contaminated soil were evaluated for AOC G-1. In addition, risks posed to surface water and groundwater by soil contamination were also evaluated for AOC G-1. As part of the IP #3 Feasibility Study, the Air Force conducted a human health **risk assessment** to determine the potential effects of VOC and non-VOC contaminants at AOC G-1 on human health. The human health risks posed by the site help determine whether or not cleanup action is needed. The risk assessment evaluated potential health effects for both children and adults in a residential setting, and adults in industrial/occupational or recreational settings. **Cleanup levels** were developed for VOCs and non-VOCs that could have a significant effect on human health. The exposure routes that were used to calculate the cleanup levels for the protection of human health include ingestion, skin contact, and inhalation.

Evaluating risk is a scientific process, referred to as a risk assessment, which uses both facts and assumptions to evaluate potential adverse effects (such as cancer) on human health from exposure to chemicals. The likelihood of any kind of cancer resulting from exposure to a contaminated site is generally expressed as a probability, for example, "1-in-1,000,000." In other words, for every 1,000,000 people who are exposed over a period of 30 years, one extra cancer case could occur as a result of exposure to a certain contaminant. The U.S. EPA target risk range is between 1-in-1,000,000 and 100-in-1,000,000 (or 1-in-10,000). The cleanup levels generally correspond to a 1-in-1,000,000 risk for each contaminant.

Risk analyses also consider noncancer hazards through the use of what is called the **hazard index (HI)**. If the HI is greater than 1, people are exposed to levels of contaminants that may pose a **noncancer health risk**. Specific noncancer health risks depend on the type of contaminant; for some of the contaminants,

noncancer health risks can include kidney disease, nervous system damage, anemia, dizziness, and headaches (see Glossary/Acronyms for more information).

The Air Force and regulators consider risks greater than the target risk range (1-in-1,000,000 to 100-in-1,000,000 for added cancer risks and/or HI greater than 1) unacceptable, and generally recommend cleanup action. For risks that fall within the target risk range, the Air Force evaluates site-specific information such as data sufficiency and potential land use to determine whether action is warranted. No actions are required for excess cancer risk values less than 1-in-1,000,000, or an HI value less than 1.

The Air Force analyzed various risk scenarios at AOC G-1 to evaluate impacts resulting from future land use. For a hypothetical resident exposed to soil from the top 2 feet, the carcinogenic risks are 0.05-in-1,000,000 (which is less than the risk range) and the noncancer HI is less than 1 for both adults (0.2) and children (0.9). This scenario also conservatively estimates risk for recreational use and shows that those risks are very low (less than the risk range). Risks for the hypothetical resident exposed to deeper soil are higher (30-in-1,000,000) because the contaminants were detected below 2 feet. The carcinogenic risk for this scenario is within the risk range, and the noncancer HI is less than 1 for adults (0.4), but greater than 1 for children (2; the risk is associated with the metal vanadium). For an outdoor worker, the carcinogenic risks are 0.006-in-1,000,000 (which is less than the risk range) and the noncancer HI is less than 1 (0.04). The indoor air residential cancer risks are 1-in-1,000,000 and the noncancer HI is 0.2. The indoor air occupational worker risks are 0.08-in-1,000,000 and the noncancer HI is 0.02.

As previously indicated, risks to wildlife are considered to be insignificant because the developed nature of the site (sports fields and a museum) provides little habitat and because no sensitive wildlife is present onsite.

F. Cleanup Objectives

Cleanup objectives serve as goals established for protecting human health and the environment at sites where the Air Force proposes an action. The cleanup objective is to reduce risks to human health to acceptable levels for the current and reasonably anticipated land use. When an action is needed, the goal is to reduce the excess cancer risk to 1-in-1,000,000 and the noncancer HI to 1.

Cleanup objectives for water quality or ecological receptors are not needed for AOC G-1. No potential impacts to ecological receptors or to groundwater or surface water quality were identified.

G. Summary of Cleanup Alternatives

The remedial alternatives developed for AOC G-1 were intended to address a broad range of site conditions and contaminant types. Because both VOCs and non-VOCs are present, both VOC and non-VOC alternatives were developed to address both of these types of contaminants. These alternatives are described in detail in the IP #3 Feasibility Study and are summarized below.

Alternative 1 – No Action

CERCLA and NCP require the evaluation of a No Action alternative to establish a basis for comparison with other alternatives. No remedial activities for VOCs and/or non-VOCs are implemented under this alternative. No cost is associated with this alternative.

Alternatives VOC2 and Non-VOC2 – Institutional Controls to Prohibit Residential Use (Restricted Land Use)

Under these alternatives, Institutional Controls will be implemented to limit exposure to people by prohibiting certain uses in the vicinity of the southern disposal area (see Figure 2). Institutional controls

are designed to address specific site conditions and may include permitting, zoning, and/or deed restrictions that limit use to reduce exposure to any remaining contaminants. The proposed restrictions would prohibit sensitive uses such as single family homes, daycare centers, healthcare centers, or schools within the portion of the property where the southern disposal area is located, but would permit recreational use. There would also be a restriction on digging in this specific area. This restriction would require that agency approval be obtained before any intrusive work was performed, other than routine activities such as irrigation maintenance and landscaping. The Air Force, Sacramento County, EPA, and the State each carry out specific Institutional Controls.

If selected, the Air Force will incorporate the need for institutional controls in the deed at the time of property transfer. The signed deed will include the specific land use restrictions, and the transfer documents will stipulate that a SLUC be executed and recorded within 10 days of transfer. Prior to conveyance of the property, EPA and DTSC representatives will be given reasonable opportunity to review and comment on the applicable deed language and associated rights of entry for purposes of institutional control oversight and enforcement.

Alternative 4b – Excavation and Offsite Disposal (Unrestricted Land Use)

Under this alternative, all of the soil in the southern disposal area would be excavated and transported offsite for disposal at an appropriate facility. Because all of the material within the disposal area would physically be removed from the site, no Institutional Controls or long-term monitoring would be required. This alternative would facilitate unrestricted use of the site, including residential use, school facilities, and/or daycare centers. The cost of this alternative is significantly greater than the costs associated with the other alternatives.

H. Evaluation of Alternatives

The Air Force evaluated and compared the alternatives against nine criteria as described in detail on Figure 3. These nine criteria are part of the CERCLA process established to provide a format for selecting appropriate remedial alternatives. The first two criteria, overall protection of human health and the environment and compliance with state and federal environmental requirements, are called threshold criteria. These two criteria must be met in order for the alternative to be eligible for selection. The remaining seven criteria, called modifying and balancing criteria, are used to compare the eligible alternatives and help in the selection of the Preferred Alternative. The Air Force and the support agencies (i.e., the EPA and State) have reached consensus on the proposed remedy. The last criterion, Community Acceptance, is specifically evaluated during the Proposed Plan stage. The Air Force will describe community acceptance in the **Responsiveness Summary** section of the Record of Decision. Figure 3 also presents a comparison of the alternatives for AOC G-1 against the criteria.

I. Preferred Cleanup Alternative

The Air Force's preferred alternative for AOC G-1 presented in this Proposed Plan (Institutional Controls to Prohibit Residential Use) is based on limiting human exposure to contamination and protecting the environment. The Air Force believes the preferred alternative for AOC G-1 presented in this Proposed Plan is protective of human health and the environment given the current and reasonably anticipated future land use at AOC G-1 (i.e., recreational) and that the proposed institutional control measures are necessary to protect public health and the environment from the residual contaminants at the site. The preferred alternative will comply with **applicable or relevant and appropriate requirements** (i.e., comply with state and federal environmental requirements), is cost effective, and utilizes permanent solutions to the maximum extent possible. The preferred alternative is expected to provide the best balance with respect to the modifying and balancing criteria.

Figure 3 National Contingency Plan Criteria for Evaluating Remedial Alternatives and How the Alternatives for AOC G-1 Meet the Criteria	**Alternative 1** No Action	**Alternative VOC2/ Alternative Non-VOC2** Institutional Controls to Prohibit Residential Use	**Alternative 4b** Excavation and Offsite Disposal
1 **Overall Protectiveness of Human Health and the Environment** Determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment. 	No	Yes	Yes
2 **Compliance with State and Federal Environmental Requirements** Evaluates alternatives for compliance with environmental protection requirements. 	No	Yes	Yes
3 **Long-term Effectiveness** Considers an alternative's ability to maintain reliable protection of human health and the environment after implementation. 	No	Yes	Yes
4 **Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment** Evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present. 	No	No	No
5 **Cost** Weighs the benefits of a particular alternative against the cost of implementation. 	$0	$81,000*	$4,352,000
6 **Short-term Effectiveness** Addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until cleanup goals are achieved. 	No	Yes	Yes
7 **Implementability** Refers to the technical and administrative feasibility of the alternative, including the availability of materials and services needed to implement a particular option. 	No	Yes	Yes
8 **State Acceptance** Considers whether the state favors or objects to any of the alternatives based on the available information. 	No	Yes	Yes
9 **Community Acceptance** Indicates whether community concerns are addressed by the alternative and whether the community has a preference for an alternative. Although public comment is an important part of the final decision, the Air Force must balance community concerns with all the previously mentioned criteria. 	To be evaluated as part of this Proposed Plan	To be evaluated as part of this Proposed Plan	To be evaluated as part of this Proposed Plan

*The cost for Institutional Controls is based on a 30-year timeframe.

In addition to the preferred alternative and in accordance with CERCLA, **five-year reviews** will be performed to ensure the remedy is functioning as intended and is protective of human health and the environment.

The preferred alternative can change in response to public comments or new information. The Air Force invites community comments on the preferred alternative, as well as the other alternatives presented in this Proposed Plan.

J. Community Participation

The Air Force provides cleanup information through public meetings; the **Administrative Record**; and announcements or articles published in newsletters, fact sheets, or community newspapers. The Air Force, along with the federal and state regulatory agencies, encourages the public to gain a better understanding of the ongoing cleanup efforts at McClellan.

The public is invited to review and comment on this Proposed Plan for AOC G-1. The public comment period begins on June 8, 2009, and ends on July 8, 2009. A public meeting will also be held on June 16, 2009 (please see Page 1 for details).

The Air Force will prepare written responses to all comments pertaining to this Proposed Plan. Responses to the public comments will be included in the Responsiveness Summary of the Record of Decision for AOC G-1. The Record of Decision will be available in the Administrative Record upon publication.

For further information on AOC G-1, please contact:

Air Force Real Property Agency
http://www.safie.hq.af.mil/afrpa/legacybrac/formermcclellan.asp

Brian Sytsma, McClellan Community Relations
(916) 643-1250, ext. 232
brian.sytsma.ctr@lackland.af.mil

Department of Toxic Substances Control
www.dtsc.ca.gov

Stephen Pay, Remedial Project Manager
8800 Cal Center Drive
Sacramento, CA 95826
(916) 255-6403
spay@dtsc.ca.gov

or

Marcus Simpson, Public Participation Specialist
8800 Cal Center Drive
Sacramento, CA 95826
(916) 255-6683
msimpson@dtsc.ca.gov

U.S. Environmental Protection Agency
www.epa.gov

Penny Reddy, Remedial Project Manager
75 Hawthorne Street SFD-8-1
San Francisco, CA 94105
(415) 972-3108
reddy.penny@epa.gov

or

Viola Cooper, Community Involvement Coordinator
75 Hawthorne Street SFD-8-1
San Francisco, CA 94105
(415) 972-3243
cooper.viola@epa.gov

California Regional Water Quality Control Board Central Valley Region
www.waterboards.ca.gov/centralvalley

James Taylor, Remedial Project Manager
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670
(916) 464-4669
jdtaylor@waterboards.ca.gov

Glossary/Acronyms

Administrative Record—Collection of all pertinent documents that support the final decisions for each site. This is located at the former McClellan Air Force Base.

Air Force Real Property Agency—A field-operating agency activated by the secretary of the Air Force. The mission is to execute the environmental programs and real and personal property disposal for major Air Force bases being closed in the U.S.

Applicable or relevant and appropriate requirements—Federal laws and more stringent state laws that apply or are determined to be relevant and appropriate to the remedy.

Area of Concern (AOC)—An area identified for further investigation during the IRP process.

Cleanup levels—Levels set for the protection of human health, groundwater, or surface water. To protect human health, the set risk level is usually one in a million—an additional person in a million people may contract cancer.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)—Legislation passed in 1980 and designed to respond to the past disposal of hazardous substances. The act was extensively amended in 1986 by the Superfund Amendments and Reauthorization Act, which added many provisions and clarified unclear areas in the original law.

Deep soil gas—Soil gas found from 15 feet below ground surface to the top of the groundwater table (at about 100 feet below ground surface at McClellan).

Dioxins/Furans—A group of halogenated polycyclic compounds that generally occur as byproducts of combustion.

Engineered Controls—Methods of managing environmental and health risks. Engineered controls, such as barriers placed between a contaminated area and the rest of a site, can be used to limit exposure pathways.

Exposure pathway—Ways that people can be exposed to contaminants. Common pathways include breathing, ingestion, or absorption through the skin.

Feasibility Study—A study of a hazardous waste site that must be completed before a cleanup remedy can be chosen and implemented. The Feasibility Study identifies and evaluates alternatives for addressing contamination.

Finding of Suitability for Transfer (FOST)—A document that records that a parcel of real property at a former military installation is environmentally suitable for transfer by deed.

Five-year review—Regular check-ups conducted on certain Superfund sites (where either treatment systems are still operating after 5 years or where waste is left behind) to make sure the site is still safe. Five-year review reports make recommendations on the continuation, modification, or elimination of annual reports and institutional control monitoring frequencies. Five-year review reports are submitted by the Air Force to regulatory agencies for review and comment. Five-year reviews also represent an opportunity for the public to voice any concerns.

Groundwater—Underground water that fills pores between particles of soil, sand, and gravel or openings in rocks to the point of saturation. Where groundwater occurs in significant quantity, it can be used as a source of drinking water.

Hazard index (HI)—The ratio of contaminant concentration divided by the safe exposure level. If the HI exceeds 1, people are exposed to contaminants that may pose noncancer health risks. Noncancer health risks are contaminant-dependent but may include kidney disease, headaches, dizziness, and anemia. For more information, go to ToxFAQs at www.atsdr.cdc.gov/toxfaq.html.

Initial Parcel #3— A group of 45 Installation Restoration Program (IRP) sites that the Air Force has assembled together for the purposes of investigation and evaluation of remedial alternatives.

Installation Restoration Program (IRP)— A program designed to identify, investigate, and clean up contamination associated with past Air Force activities.

Institutional Controls— Administrative or legal mechanisms that protect property users and the public from existing contamination that continues to be present during use of a site (permits, zoning, and/or deed restrictions).

Local Reuse Authority (LRA)— An agency typically associated with local government (e.g., the county or city) that supervises and coordinates the redevelopment and reuse of former military installations.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP)— The federal regulation that guides determination of the sites to be cleaned up under the Superfund program. This plan also provides the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances in accordance with CERCLA and the Clean Water Act.

National Priorities List— U.S. Environmental Protection Agency's published list of the highest priority hazardous waste sites in the U.S. for investigation and cleanup, which are subject to the Superfund program.

Noncancer health risk— Health risks that do not result in cancer and may include kidney disease, headaches, dizziness, and anemia.

Non-volatile organic compounds (non-VOCs)— A group of compounds that do not readily evaporate at room temperature. These include metals, pesticides, SVOCs, **petroleum hydrocarbons**, **dioxins/furans**, and **radionuclides**.

Operable Unit— The cleanup of a site can be divided into a number of operable units depending on the complexity of the problems associated with a site. Operable units may address geographic portions of a site, specific site problems, or initial phases of an action, or may consist of any set of actions that are concurrent but located in different parts of a site. The determination of an operable unit may vary over time as a result of change in activity or need. For management purposes, McClellan is subdivided into 11 operable units. Ten of the operable units correspond to discrete areas of the base where specific industrial operations and/or waste management activities took place. Those operable units are designated A, B, B1, C, C1, D, E, F, G, and H. The remaining operable unit is the Groundwater Operable Unit (GWOU), which encompasses the entire base.

Petroleum hydrocarbons— A wide range of liquid hydrocarbons, including gasoline and diesel fuel.

Polycyclic aromatic hydrocarbons (PAHs)— A group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat.

Preferred Alternative— The Air Force's suggested cleanup method(s) for the contaminated site(s). The preferred alternative is protective of human health and the environment, complies with applicable or relevant and appropriate requirements, and is cost-effective.

Proposed Plan— A summary of cleanup alternatives for a contaminated site, including a preferred alternative and the reasons for its selection. This step is the community's opportunity to review and comment on all cleanup alternatives under consideration. The responses to the comments are presented in the Record of Decision. All changes from the Proposed Plan are explained in the Record of Decision.

Radionuclides— An unstable isotope of an element that decays or disintegrates spontaneously, emitting radiation.

Record of Decision— A document explaining and legally committing the lead agency to the cleanup alternative(s) that will be used at a site. The Record of Decision is based on information and technical analyses generated during the Remedial Investigation, the Feasibility Study, and consideration of public comments and community concerns.

Remedial Investigation— A hazardous waste site study to examine the nature and extent of site contamination.

Restricted land use— Land use that is limited to commercial, industrial, or recreational purposes; sensitive land use such as residential is not allowed.

Responsiveness Summary— The section within the Record of Decision that summarizes comments received from the public during the public comment period and provides lead agency responses to them.

Restoration Advisory Board— A board consisting primarily of members of the public. Board members have the opportunity to review cleanup reports and provide advice to decisionmakers on investigation and cleanup matters. The Board is a forum for the exchange of information between community members, regulatory agencies, and Air Force personnel.

Risk assessment— A study based on the results of the Remedial Investigation to determine the extent to which chemical contaminants found at a Superfund site pose a risk to public health and the environment.

Semivolatile organic compounds (SVOCs)— A group of chemical compounds that evaporate in air at a slower rate than VOCs. SVOC is a name for a class of compounds and includes PAHs, pesticides, and dioxins/furans.

Shallow soil gas— Soil gas in the upper 15 feet of soil.

Soil gas— Air between soil particles that may be contaminated by contaminants that have vaporized in the soil.

Total petroleum hydrocarbons (TPH)— A wide range of liquid hydrocarbons, including gasoline and diesel fuel.

Unrestricted land use— Risk is reduced to such a low level as to allow anything to be built, including homes and schools.

Vapor inhalation pathway— A pathway used in risk analysis where contaminants in the soil volatilize into soil gas, migrate into buildings, and are inhaled by the occupants.

Volatile organic compound (VOC)— An organic compound containing carbon that evaporates (volatilizes) readily at room temperature. VOCs are used in the manufacturing of paints, pharmaceuticals, and refrigerants. VOCs typically are industrial solvents, such as trichloroethylene (TCE). Some VOCs are known carcinogens. For more information, go to ToxFAQs at www.atsdr.cdc.gov/toxfaq.html.

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for AOC G-1 at the Former McClellan Air Force Base is important to the Air Force. Comments provided by the public help the Air Force select a final cleanup remedy for VOCs in shallow soil gas and non-VOCs in soil. All comments received by the deadline will be responded to in writing in the Responsiveness Summary section of the Record of Decision.

You may use the space below to write your comments. Use additional pages, if needed. Comments must be received by (to be determined). Send your comments to AFRPA, 3411 Olson Street, McClellan, CA 95652 or e-mail brian.sytsma.ctr@lackland.af.mil.

If you have any questions about the comment period, contact Brian Sytsma at (916) 643-1250, ext. 232.

If you would like to be on the mailing list to receive information about environmental restoration activities at the former McClellan Air Force Base, complete the Name and Address section below.

Name_____

Address_____

City_____ State_____ Zip_____

_____ Yes, add me to the mailing list.

E-mail Address_____
(optional)

_____

_____

_____

Affix
stamp
here

AFRPA/Western REC
3411 Olson Street
McClellan, CA 95652